

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

AGROFRESH INC.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 16-662-MN
)	
ESSENTIV LLC, DECCO U.S. POST-)	
HARVEST, INC., CEREXAGRI, INC. d/b/a)	
DECCO POST-HARVEST, and UPL, LTD.,)	
)	
Defendants.)	

**OPENING BRIEF IN SUPPORT OF DEFENDANTS' RENEWED
MOTION FOR JUDGMENT AS A MATTER OF LAW UNDER RULE 50(b)**

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I. INTRODUCTION

At the close of the evidence and before the case was submitted to the jury, Defendants moved under Fed. R. Civ. P. 50(a) for judgment as a matter of law on multiple issues. D.I. 572, 573. The Court reserved ruling on Defendants' motion, Tr. 1262-63, and later denied the motion as moot after entering judgment, D.I. 586. Defendants now renew their motion under Fed. R. Civ. P. 50(b), incorporating herein Defendants' Rule 50(a) motion, D.I. 573.

II. LEGAL STANDARD

A motion for judgment as a matter of law raises procedural issues that are not unique to patent law, and thus is reviewed under the law of the regional circuit in which the appeal from the district court would usually lie. *MicroStrategy, Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1348 (Fed. Cir. 2005). In the Third Circuit, judgment as a matter of law may be granted if, “viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find liability.” *Marra v. Phila. Hous. Auth.*, 497 F.3d 286, 300 (3rd Cir. 2007). To prevail on their motion for judgment as a matter of law, Defendants must show that the jury's findings, presumed or express, are not supported by substantial evidence. *Idenix Pharms. LLC v. Gilead Scis., Inc.*, No. 14–846, 2018 WL 922125, *4 (D. Del. Feb. 16, 2018). Substantial evidence is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review. *Id.*

III. TRADE SECRET MISAPPROPRIATION

To support the jury's verdict of trade secret misappropriation, there must be substantial evidence that the trade secrets in fact existed. *See ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1346 (Fed. Cir. 2012). Specifically, AgroFresh had to show the existence of its alleged trade secrets with a “reasonable degree of precision and specificity” such that a

reasonable jury could find that plaintiff established each statutory element of a trade secret. *Dow Chem. Canada Inc. v. HRD Corp.*, 909 F. Supp. 2d 340, 346 (D. Del. 2012). And to establish that its trade secrets existed, this identification had to be “particular enough as to separate the trade secret from matters of general knowledge in the trade or of special knowledge of persons skilled in the trade.” *Id.*

To establish misappropriation of the alleged trade secrets, AgroFresh also had to prove that each alleged trade secret was improperly acquired, used, or disclosed by Defendants with knowledge (or reason to know) of the improper means. *Accenture Glob. Servs. GmbH v. Guidewire Software Inc.*, 581 F. Supp. 2d 654, 662 (D. Del. 2008); 18 U.S.C. § 1839(5)(A), (B)(i); D.I. 575 at 17. AgroFresh failed to prove that each of the four alleged trade secrets the jury found misappropriated were either trade secrets or that Defendants misappropriated them.

A. Gas Generator

1. AgroFresh failed to show a gas generator trade secret

AgroFresh’s gas generator is a container with “an air infusion mechanism” that promotes the release of 1-MCP from water. *See* Tr. (Beaulieu) 452:17-454:20. According to Dr. Beaulieu, the air infusion mechanism was shielded from public view, Tr. (Beaulieu) 453:19-25, but AgroFresh did not identify any other confidential aspect of its gas generator, *see* Tr. (Beaulieu) 452:17-454:20.

The gas generator’s so-called air infusion mechanism was generally known in the industry. For example, it was known that AgroFresh’s gas generator contained “[a]n air bubbler in the water [that] carries the 1-MCP from solution into the atmosphere of the sealed room.” DTXb-556 at 4. In fact, Dr. Beaudry observed AgroFresh’s gas generator with authorization as early as 2002, Tr. (Beaudry) 1114:12-21, and described its operation to Decco before this litigation began, Tr. (Beaulieu) 1112:11-12; DTXb-556 at 4. Further, the use of an air infusion

mechanism—an air bubbler—to promote the release of 1-MCP from water was disclosed in the Daly patent. PTXa-453 at 8:12-15 (“A more specific feature of this methylcyclopropene method of delivery embodiment comprises bubbling a gas through the solvent while it is in contact with the complex.”). To the extent that the “air infusion mechanism” of AgroFresh’s gas generator was anything other than this generally known, publicly available technology (an air bubbler), AgroFresh failed to prove that by substantial evidence to support the jury’s verdict.

2. AgroFresh did not show misappropriation of the gas generator

There is no evidence that Defendants misappropriated any alleged trade secret related to AgroFresh’s “gas generator.” As explained by Dr. Oakes, Decco’s TruPick application involved a “bait bucket,” a “five-gallon bucket with a lid on it that’s used to take care of your fishing bait and to keep them alive.” Tr. (Oakes) 605:17-19. The TruPick gas generator/bait bucket consisted of publicly available technology, e.g., a container with an air bubbler. *See* Tr. (Beaudry) 1115:11-16 (describing “a bubbler” used in TruPick application); Tr. (Beaudry) 1115:18-1116:9 (explaining that the bubbler agitates the water to get the 1-MCP into the air); DTXb-168 (describing the TruPick bait bucket and commercial availability for \$19.99); DTXb-556 at 4; PTXa-453 at 8:12-15 (describing release of 1-MCP using an air bubbler). Because the TruPick gas generator used only generally known, commercially available technology, the Court should enter judgment for Defendants on AgroFresh’s alleged gas generator trade secret.

B. Gas Sampler

1. Agrofresh failed to show a gas sampler trade secret

AgroFresh failed to offer any evidence of its gas sampler that is distinct from general or specialized knowledge in the industry. The gas sampler (1) collects a sample during apple storage, Tr. (Beaulieu) 455:15-18; (2) has a program that tells the unit when to sample, Tr. (Beaulieu) 456:3-5; (3) includes a sample bag made of material suitable for 1-MCP,

Tr. (Beaulieu) 456:10-12; and (4) includes “miniaturization technology,” Tr. (Beaulieu) 456:17-22. In connection with these four features, AgroFresh provided (1) no information on *when* sampling should be performed, apart from sometime from day one all the way to day 180, i.e., “the normal period of time that apples are stored in giant refrigerators,” Tr. (Beaulieu) 455:15-25; (2) no details regarding the sample program that would distinguish it from a simple timer on a pump, Tr. (Beaulieu) 456:3-5; (3) no identification of what type of sample bag is suitable for collecting 1-MCP, Tr. (Beaulieu) 456:9-12; and (4) no description of whether or how its size differed from commercial systems, Tr. (Beaulieu) 456:19-22.

AgroFresh did not present any testimony that its gas sampler involved technology that was not generally known or readily ascertainable by proper means. *See* Tr. (Beaulieu) 455:1-457:8. At most, Dr. Beaulieu testified that AgroFresh’s service providers have secrecy agreements and retain possession of the samplers, Tr. (Beaulieu) 457:5-8, and that no one else provides AgroFresh’s gas sampling service, Tr. (Beaulieu) 457:1-2. That is not substantial evidence for a jury to find that the gas sampler was not generally known or readily ascertainable.

To the contrary, the evidence showed that features of the gas sampler described by AgroFresh were generally known and commercially available. DTXb-156 at 4, 16. As Dr. Beaudry explained, if you attach a Tedlar sample bag, DTXb-556 at 4, to a Twin Port Pocket Pump, DTXb-156 at 16, you can program the system to sample gas at any time. Tr. (Beaudry) 1120:20-25; DTXb-156 at 4 (describing Tedlar air sample bags and directing consumers to the pumps on page 16 of the brochure); *see also* Tr. (Beaudry) 1095:25-1096:1 (“I have been working in gas sampling [] since I was a graduate student for 40 years.”). As noted in the brochure, the Twin Port Pocket Pump can be programmed for delayed start and run times. DTXb-156 at 16. AgroFresh itself disclosed Tedlar sample bags and pumps for sampling air

treated with 1-MCP in its publicly available EPA registration jacket for SmartFresh. DTXb-1361 at 164.

The commercially available system described by Dr. Beaudry includes all the features described by Dr. Beaulieu, e.g., (1) the ability to sample during apple storage, (2) a programmable pump, (3) an appropriate sample bag for 1-MCP (a Tedlar sample bag), and (4) miniaturization (a “pocket” pump). *See* DTXb-156 at 1, 4, 16; *see* Tr. (Beaulieu) 455:8-456:22. There is no evidence distinguishing AgroFresh’s gas sampler from basic commercial knowledge.

2. AgroFresh failed to show misappropriation of the gas sampler

AgroFresh also failed to show that the gas sampler used with TruPick related to any alleged AgroFresh trade secret. At most, AgroFresh established that Dr. Mir made gas samplers for Decco, Tr. (Oakes) 606:20-22, used a prototype gas sampling manifold for bananas while at AgroFresh, PTXa-159 at 7, and had an understanding of AgroFresh’s air sampling procedure, PTXa-180. But AgroFresh failed to show that the gas samplers Dr. Mir made for Decco used any AgroFresh trade secret (to the extent one exists), as opposed to generally known, commercially available technology. *See, e.g.*, DTXb-156. AgroFresh presented no testimony—and asked no questions—about the features of any gas sampler Dr. Mir made for Decco.

While Defendants obtained photos of AgroFresh’s gas samplers, those photos do not establish misappropriation, at least because the gas sampler “trade secrets” proffered by Dr. Beaulieu cannot be discerned from the photos. *See* DTXb-181 at 23; Tr. (Beaulieu) 455:8-456:22. And, contrary to AgroFresh’s counsel’s remarks, there is no evidence that Defendants *obtained* an AgroFresh gas sampler, as opposed to photos of one at a customer site. *See* Tr. (Beaulieu) 458:25-459:5; *see also* Tr. (Oakes) 699:18-25. Thus, no substantial evidence supports the jury’s verdict of misappropriation of any alleged trade secret related to gas sampling.

C. Testing Protocols

1. AgroFresh did not establish any testing protocols trade secret

AgroFresh failed to show that it possessed a trade secret testing protocol. AgroFresh merely referred to its testing protocols as “a set of instructions, almost like a recipe” that AgroFresh uses to “figure out how SmartFresh can best help the fruit stay fresh.” Tr. (Beaulieu) 462:20-463:1; *see also* Tr. (Beaulieu) 463:21-23. This type of categorical description does not establish the existence of a trade secret. *See Biod, LLC v. Amnio Tech., LLC*, No. 2:13-cv-1670, 2014 WL 3864658, at *6 (D. Ariz. Aug. 6, 2014) (“Plaintiffs cannot claim that a method or process is a trade secret without identifying the steps in the process or explaining how those steps make their method or process unique.”); *Kuryakyn Hldgs. LLC v. Ciro, LLC*, 242 F. Supp. 3d 789, 800 (W.D. Wisc. 2017); (plaintiff “must identify specific documents or information that constitute trade secrets, not simply list categories or general topics of information”).

AgroFresh failed to produce any substantial evidence of how AgroFresh’s testing protocols differ from generally known, published protocols, including testing protocols published by Dr. Beaudry and Dr. Mir for evaluating treatments with 1-MCP. DTXb-131 at 2-3 (reporting testing protocols for determining internal ethylene content (IEC), starch content, firmness, chlorophyll fluorescence, titratable acidity, and 1-MCP concentration); *see also* Tr. (Beaudry) 1096:10-18, 1127:8-14, 1128:16-20. Nor was there any evidence showing how AgroFresh’s testing protocols differ from the publication titled “Maximizing Your SmartFresh™ Investments,” e.g., protocols “necessary to use SmartFresh with optimal effectiveness.” *See* DTXb-142 at 1, 2 (fig. 1) (publication reporting testing protocols for firmness and starch index). Likewise, the evidence did not show whether or how AgroFresh’s testing protocols differ from those published by Dr. Jennifer DeEll. DTXb-594 at 1-3 (publication describing testing protocols determining the efficacy of 1-MCP on various apple varieties).

While Dr. Beaulieu testified that AgroFresh's testing protocols gave AgroFresh a competitive advantage, Tr. (Beaulieu) 464:1-4, and were not publicly available, Tr. (Beaulieu) 463:14-17, AgroFresh failed to even identify the *types* of testing protocols that AgroFresh performs, much less describe any protocol in a way that would show it was any different than published testing protocols, *see* Tr. (Beaulieu) 462:20-464:4; DTXb-131 at 2-3; DTXb-142 at 1-2; DTXb-594 at 2-3. Dr. Beaulieu admitted that she neither kept up with the 1-MCP literature, Tr. (Beaulieu) 483:6-10, nor read all the publications cited in or appended to Dr. Beaudry's expert report, Tr. (Beaulieu) 484:10-14. Because AgroFresh failed to distinguish its alleged trade secret testing protocols from matters of general or specialized knowledge, including published testing protocols, there is no substantial evidence to support the jury's verdict as to this category of trade secrets.

2. AgroFresh failed to establish misappropriation of testing protocols

AgroFresh failed to show that Defendants acquired, used, or disclosed any alleged testing protocol trade secret. In fact, AgroFresh failed to present any evidence as to the testing protocols used by Defendants, much less compare those protocols to any alleged trade secret protocols. Thus, the jury's verdict as to misappropriation of any testing protocol trade secrets is not supported by substantial evidence.

D. Treatment Parameters

1. AgroFresh failed to show a treatment parameter trade secret

AgroFresh failed to show any treatment parameter trade secret. AgroFresh referred to a general category without specifically describing any treatment parameter in a manner that would distinguish it from general or specialized knowledge. *E.g.*, Tr. (Beaulieu) 464:7-467:5, 464:13-17 ("Treatment parameters are the things that we measure. They're the things that vary."). This

type of categorical description does not establish the existence of a trade secret. *See e.g., Biod*, 2014 WL 3864658, at *6; *Kuryakyn Holdings*, 242 F. Supp. 3d at 800.

Absent some description of the specific treatment parameters that AgroFresh alleges constitute its trade secret, it is not possible to determine whether such parameters are, in fact, secret. *See, e.g.,* Tr. (Beaudry) 1133:4-1134:2. As Dr. Beaudry testified, each of the hundreds of articles cited in DTXb-140 and DTXb-179 contains treatment parameters. Tr. (Beaudry) 1134:12-18, 1138:12-18, 1139:13-14 (“those hundreds of articles, I think 300 in that last one, they all had treatment parameters”). Dr. Beaudry further testified that “these treatment protocols are well-known, well-regarded by many people.” Tr. (Beaudry) 1139:6-7. Despite the existence of a vast amount public information, AgroFresh made no attempt to distinguish its treatment parameters from matters of general or specialized knowledge. *See* Tr. (Beaulieu) 464:7-467:5.

AgroFresh failed to even refer to any type of parameter (e.g., 1-MCP concentration, duration of treatment, etc.), much less distinguish its alleged trade secret from published treatment parameters. *See* DTXb-131 at 2 (reporting treatment parameters including storage temperature, harvest maturity, and application frequency); DTXb-142 at 1-4 (reporting treatment parameters including the optimal maturity of fruit to be treated, the use of an airtight enclosure, treatment with 1 ppm 1-MCP for 24 hours, optimal temperatures, conditions for storage); DTXb-594 at 1-4 (reporting treatment parameters including the influence of temperature and duration of 1-MCP treatment on apple quality). Because AgroFresh failed to distinguish its treatment parameters from matters of general or specialized knowledge, including published treatment parameters, the jury’s verdict is not supported by substantial evidence. *See Dow Chem.*, 909 F. Supp. 2d at 346-48.

2. AgroFresh failed to show misappropriation of treatment parameters

AgroFresh failed to show that Defendants acquired, used, or disclosed any alleged treatment parameter trade secret. For example, Dr. Beaulieu testified that AgroFresh keeps its treatment parameters in a secured database, Tr. (Beaulieu) 466:9-12, but the record contains no evidence that Defendants accessed this database, *see* Tr. (Beaulieu) 485:14-21. Nor does the record show that any of Defendants' treatment parameters related to any alleged trade secret. In fact, AgroFresh failed to present any evidence as to the actual parameters used by Defendants, much less compare them to any alleged trade secret parameters.

3. AgroFresh failed to show a dosage chart trade secret

To the extent that AgroFresh argues that its dosage charts fall within the category of "treatment parameters," AgroFresh failed to show that any of its dosage charts qualify as trade secrets. *See* Tr. (Beaulieu) 466:19-25. AgroFresh's dosage charts for the use of SmartFresh in the United States are *publicly available*. DTXb-1361 at 11, 12; DTXb-573 at 8, 9. These charts show how much product to use (ounces, grams) for different room sizes to achieve the concentration of 1-MCP specified in the public product labels. *E.g.*, DTXb-1361 at 11, 12; DTXb-573 at 8 (dosage chart for SmartFresh on apples); DTXb-573 at 9. While AgroFresh presented testimony that it had taken steps to maintain the confidentiality of its dosage charts, Tr. (Beaulieu) 466:23-25, it did not show that it had any confidential dosage charts for SmartFresh in the United States.

As to the dosage chart for Turkey in PTXa-54, AgroFresh did not present any evidence to show that this chart derived economic value by virtue of not being generally known or readily ascertainable. *See* Tr. (Beaulieu) 466:19-467:6 (testimony on dosage charts). The fact that Dr. Oakes prepared his own dosage charts for TruPick in both the United States and Turkey

before receiving the chart in PTXa-54 shows that this type of information is readily ascertainable by proper means. Tr. (Oakes) 662:3-9; *see also* Tr. (Oakes) 636:19-22, 640:23-24, 642:20-643:2.

4. AgroFresh did not show misappropriation of a dosage chart

AgroFresh did not show that Defendants improperly acquired, used, or disclosed the dosage chart for Turkey in PTXa-54. Tr. (Oakes) 636:17-22, 640:20-642:10. Dr. Oakes testified that he did not realize that the chart was marked confidential when he received it, as he opened it as an Excel spreadsheet. Tr. (Oakes) 636:1-8. And, because AgroFresh makes other dosage charts publicly available (Tr. (Oakes) 635:9-10), dosage charts are not the type of information that anyone would expect to be confidential. *See* DTXb-573 at 8-9; DTXb-1361 at 11; Tr. (Oakes) 635:6-10. There is no evidence that Defendants used the dosage chart. Tr. (Oakes) 662:3-9. Dr. Oakes submitted the dosage chart for TruPick to the U.S. EPA several months before he received the purportedly confidential dosage chart. *See* Tr. (Oakes) 636:19-22, 662:3-9; *see generally* Tr. (Oakes) 662:10-665:16; DTXb-1363 at 20; Tr. (Oakes) 641:251-642-4; PTXa-54.

In summary, as to all four of AgroFresh's alleged trade secrets (gas generator, gas sampler, testing protocols, and treatment parameters), there is no substantial evidence to support the jury's verdict either that AgroFresh possessed a trade secret or that Defendants misappropriated a trade secret.

E. No Reasonable Jury Could Find Defendants' Alleged Trade Secret Misappropriation Was Willful and Malicious

There is no substantial evidence to support the jury's verdict of willful and malicious trade secret misappropriation, e.g., "[s]uch intentional acts or gross neglect of duty as to evince a reckless indifference of the rights of others on the part of the wrongdoer, and an entire want of care so as to raise the presumption that the person at fault is conscious of the consequences of his

carelessness.” D.I. 575 at 20. Rather, the evidence shows Defendants took specific steps to avoid infringing the rights of others. *See, e.g.*, Tr. (Girin) 743:11-753:15; DTXb-491 at 17-18 (§ 19); DTXb-493 at 6 (§ 6); DTXb-677 at 1 (§ 12); DTXb-680; PTXa-71 at 6 (§ 7).

Like AgroFresh, Decco partnered with Dr. Mir because of his expertise. *See* Tr. (Mir) 554:5-19; Tr. (Oakes) 545:9-14; 674:4-23; Tr. (Balasubramanian) 1074:16-1075:24; D.I. 544 at ¶ 1. Based on his repeated verbal and written assurances, Defendants had a good-faith belief—from the start of the relationship until the Court’s Phase-I Order—that Dr. Mir owned the underlying technology and could work with Decco on 1-MCP. *See* Tr. (Oakes) 590:2-17, 591:4-24, 594:15-20, 611:24-612:16, 671:7-16, 673:12-674:3, 676:1-6; Tr. (Girin) 724:7-21, 744:5-20, 745:9-16, 746:7-14, 747:4-748:14, 749:22-751:16, 752:1-19, 753:8-10, 768:6-11; DTXb-677; DTXb-680; DTXb-493; DTXb-491; PTXa-71. There was “[n]ever a moment” that Decco questioned that good-faith belief. *See* Tr. (Oakes) 594:15-20, 614:1-6; Tr. (Girin) 753:11-15.

Although Decco eventually received the Mir-AgroFresh Agreements and the parties stipulated that the Agreements are “unambiguous” (D.I. 543 at ¶ 11), they did not stipulate that the provisions were clear to Defendants *before* June 30, 2017—the date of the Phase-I Order determining such language is unambiguous. It was not until the Court issued the Phase-I Order that Defendants realized they were misinformed by Dr. Mir.¹ *See* Tr. (Girin) 740:23-741:3; D.I. 543 at ¶ 12. Decco immediately stopped selling TruPick and has not sold it since. Tr. (Girin) 762:5-16, 763:6-10; Tr. (Thomas) 944:23-945:6, 1022:19-1023:4; Tr. (Cassidy) 910:20-911:5; Tr. (Mowry) 1058:12-23, 1059:12-16, 1066:4-17. And once Defendants learned Dr. Mir had consented to judgment, they promptly sought to dissolve the joint venture with MirTech. Tr.

¹ That day was also the first time Defendants learned that Dr. Mir had fraudulently induced AgroFresh into entering the Third Extension—an agreement that Mir thought would explicitly permit him to pursue his activities with Decco. *See* D.I. 97 at 14-15, 34 & n.2.

(Girin) 762:20-24. This evidence shows that any alleged trade secret misappropriation was not willful and malicious, and no reasonable jury could find otherwise.

F. The Unjust Enrichment Award Should Be Vacated

If the Court grants judgment for each of AgroFresh's alleged trade secrets that either no trade secret existed or that the alleged trade secret was not misappropriated, then the jury's \$1,013,000 award for unjust enrichment award should be vacated. *Univ. of Colo. Found., Inc. v. Am. Cyanamid Co.*, 196 F.3d 1366, 1376 (Fed. Cir. 1999); *Lugar v. Texaco, Inc.*, 755 F.2d 53, 55 (3d Cir. 1985).

IV. UNFAIR COMPETITION, INTENTIONAL INTERFERENCE, CIVIL CONSPIRACY, AND CONVERSION

A. There Is No Substantial Evidence of Unfair Competition

There is no substantial evidence to support the verdict of unfair competition, as there is no evidence of any unlawful conduct by Defendants. Rather, the evidence shows that Defendants engaged in lawful competition, e.g., sales of a product to their existing customers under what they believed was a valid license. Tr. (Mowry) 1048:21-1050:1; 1060:9-1061:9; 1062:10-1063:7; DTXb-0974; DTXb-493 (License Agreement); Tr. (Girin) 743:11-753:15; Tr. (Oakes) 601:15-17; 611:24-612:16; 630:22-631:4; 633:6-634:1; 665:17-668:17; DTXb-449 at 1:14-21.

There is also no substantial evidence of "harm to the commercial relations of AgroFresh" caused by Defendants' conduct, as opposed to competitive harm from Pace and others. Tr. (Harker) 810:2-815:12; Tr. (Mulhern) 1208:11-1210:2 (testimony that Fysium captured 14% and 20% of the market in 2016 and 2017, respectively, while TruPick captured 1% of the market in 2016); Tr. (Girin) 761:22-762:13 (testimony that Defendants' product represented 1% of the market in 2016 and 0% (no sales) in 2017); Tr. (Thomas) 1017:9-1022:15; DTXb-512. The Court should grant judgment as a matter of law of no unfair competition. *See* D.I. 573 at 7-9.

B. No Reasonable Jury Could Find Interference with Existing Contracts

1. Agrofresh Did Not Prove Defendants Intentionally Interfered with Existing Customer Contracts

Interference with existing contractual relationships requires (1) the existence of a contractual relation with a third party and (2) intent to harm by interfering with that contractual relationship. *Empire Trucking Co. v. Reading Anthracite Coal Co.*, 71 A.3d 923, 933 (Pa. Super. Ct. 2013); *Acumed LLC v. Advanced Surgical Servs., Inc.*, 561 F.3d 199, 212 (3d Cir. 2009). AgroFresh failed to prove either element.

Scott Harker testified that AgroFresh had a contract “every year” with each customer and that some customers had “multi-year contracts.” Tr. (Harker) 799:1-4. In other words, except for its multi-year contracts, AgroFresh negotiated new deals for SmartFresh each year. AgroFresh identified no specific *existing* contract that Defendants interfered with. Mr. Harker and Vincent Thomas, AgroFresh’s damages expert, offered only conclusory testimony that Decco caused AgroFresh to “rewrite” or “renegotiate” some multi-year contracts. *See* Tr. (Harker) 803:10-804:2; Tr. (Thomas) 944:3-11. But none of these supposed rewritten or renegotiated contracts are in evidence. The ten contracts in evidence are all for 2016—i.e., the terms were negotiated anew in 2016—and not one indicates that it was amended or otherwise reworked. *See* Tr. (Harker) 799:9-800:10; PTXb-1067; PTXb-1069; PTXb-1071; PTXb-1073; PTXb-1075; PTXb-1077; PTXb-1080; PTXb-1082; PTXb-1084; PTXb-1085. Because AgroFresh failed to produce “evidence setting forth the existing contracts with which [it] believed [Defendants] interfered,” *Acumed*, 561 F.3d at 212, the Court should grant judgment for Defendants.

A second reason this claim fails is there is no evidence Defendants intended to harm AgroFresh by interfering with the alleged contractual relationships. Decco only sought 1-MCP business from its existing customer base (albeit for other products) at current market pricing. *See*

Tr. (Oakes) 619:23-620:5; Tr. (Mowry) 1048:21-1050:1, 1058:7-11, 1060:9-13, 1061:1-1063:7; Tr. (Kaushik) 1044:5-17; DTXb-0974; DTXb-976; DTXb-977; DTXb-978; DTXb-984. To the extent Decco approached customers with existing AgroFresh contracts, it was regarding surplus rooms not covered by that customer's contract, as Decco would only sell to the customer "if they weren't violating the contract." *See* Tr. (Oakes) 632:22-634:1; Tr. (Mowry) 1060:14-22.

2. AgroFresh Did Not Prove Defendants Intentionally Interfered with the MirTech Agreements and Business Relationship

AgroFresh failed to establish actual damage as a result of Defendants' conduct, which was necessary to prove interference with the MirTech agreements. *Empire Trucking*, 71 A.3d at 933; *Acumed*, 561 F.3d at 212. The evidence shows that AgroFresh was transitioning away from Dr. Mir, *see* Tr. (Balasubramanian) 1072:20-1074:3, and that Dr. Mir fulfilled all his contractual obligations to AgroFresh while working with Defendants, Tr. (Oakes) 612:4-16. Because there is no evidence that AgroFresh lost any benefits of the MirTech agreements, the Court should enter judgment for Defendants.

C. Civil Conspiracy Is Not Supported by Substantial Evidence

A civil conspiracy requires (1) a combination of two or more persons acting with a common purpose to do an unlawful act or to do a lawful act by unlawful means or for an unlawful purpose; (2) an overt act done in pursuance of the common purpose; (3) malice (i.e., an intent to injure); and (4) actual damage to AgroFresh caused by the conspiracy. D.I. 575 at 27; *Thompson Coal Co. v. Pike Coal Co.*, 488 Pa. 198, 211 (1979).

AgroFresh failed to prove a civil conspiracy because there is no substantial evidence that Defendants acted with malice. *See* Tr. (Oakes) 655:11-656:9. "[A] defendant acts with malice only when the sole purpose of the agreement is to injure the plaintiff." *Arsenal Inc. v. Ammons*, No. 14-cv-1289, 2014 WL 6771673, at **4-5 (E.D. Pa. Dec. 2, 2014); *see also Thompson Coal*,

488 Pa. at 211. “[A] showing that a person acted for professional reasons, and not solely to injure the plaintiff, negates a finding of malice.” *Liberty Mut. Ins. Co. v. Gemma*, 301 F. Supp. 3d 523, 545 (W.D. Pa. 2018) (citing *DePuy Synthes Sales, Inc. v. Globus Med., Inc.*, 259 F. Supp. 3d 225, 247-48 (E.D. Pa. 2017)). The only substantial evidence at trial showed that Defendants’ acted in the interest of their business. *See, e.g.*, Tr. (Oakes) 658:20-25 (“Let’s make money as fast as possible.”); Tr. (Mowry) 1057:21-24 (TruPick fit into Decco’s product portfolio); PTXa-172 & PTXb-606 (1-MCP was a top-5 priority); Tr. (Girin) 742:2-743:17 (Decco interested in 1-MCP dating to 2008); PTXa-143 (“The goal of [Essentiv] has to create value that both MirTech and Decco can enjoy in the coming years.”).

Nor is there substantial evidence that Defendants and Dr. Mir acted with a common purpose to commit an unlawful act and did so with an understanding that the other had that purpose. *Fife v. Great Atl. & Pac. Tea Co.*, 52 A.2d 24, 26 (Pa. 1947); *see also In re Asbestos Sch. Litig.*, 46 F.3d 1284, 1292 (3d. Cir. 1994); *Spencer v. Steinman*, 968 F. Supp. 1011, 1020 (E.D. Pa. 1997). Specifically, as demonstrated herein, the record lacks substantial evidence that Defendants committed an unlawful act, much less that they intended to commit an unlawful act. *See In re Orthopedic Bone Screw Prods. Liab. Litig.*, 193 F.3d 781, 789 (3d Cir. 1999) (stating that an unlawful act in a civil conspiracy must be an independently actionable tort); *see also* Tr. (Mowry) 1049:17-1050:1; Tr. (Oakes) 655:11-19. To the extent AgroFresh argues that Dr. Mir acted with a purpose to commit an unlawful act, there is no evidence that Defendants understood Dr. Mir had such a purpose.

D. No Reasonable Jury Could Find Conversion

Although AgroFresh made claims for both trade secret misappropriation and conversion on the same subject matter (information in the ’216 patent), its technical expert only sought to establish that such information was a trade secret; i.e., that it had economic value, was not

generally known, and was not readily ascertainable. *See, e.g.*, Tr. (Walton) 315:17-316:2, 316:20-25, 319:9-14, 324:2-6, 332:16-333:12, 334:9-337:25. Defendants offered contrary evidence, *see, e.g.*, Tr. (Walton) 373:4-375:19, 411:15-416:6; Tr. (Beaudry) 1143:15-1149:16; Tr. (Dinca) 1184:4-1185:9, and the jury rejected AgroFresh’s claim, finding that the information in the ’216 patent was not a trade secret.

AgroFresh only tried to prove that the information in the ’216 patent was a trade secret. It did not submit any evidence to show that the information—even if not trade secret—was nevertheless confidential. AgroFresh thus failed to prove that Defendants converted confidential non-trade-secret information disclosed in the ’216 patent.

V. ’849 PATENT INFRINGEMENT

A. Decco Did Not Infringe the ’849 Patent

Conceding that Decco did not literally infringe claim 1 of the ’849 patent because it did not use a “molecular encapsulation agent,” AgroFresh only asserted infringement under the doctrine of equivalents. But AgroFresh’s asserted range of equivalents for the claimed “molecular encapsulation agent” ensnares the prior art Sisler patent. *See Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 685-87 (Fed. Cir. 1990). Under established patent law, a theory of equivalence cannot be asserted if it would encompass or “ensnare” the prior art. *G. David Jang, M.D. v. Boston Scientific Corp.*, 872 F.3d 1275, 1285 (Fed. Cir. 2017); *Intendis GmbH v. Glenmark Pharms., Inc.*, 822 F.3d 1355, 1363 (Fed. Cir. 2016).

AgroFresh’s sole infringement expert, Dr. Walton, asserted as equivalent to the claimed “molecular encapsulation agent” any carrier that stabilizes 1-methylcyclopropene by adsorption. Tr. (Walton) 354:12-24, 355:12-356:22. This range of equivalents, however, also covers the Sisler patent’s carriers. *See* DTXb-0563 at 5:14-21. Dr. Walton admitted that the Sisler patent’s diatomaceous earth, DTXb-0563 at 5:17, is “[a]n old-fashioned adsorbant” that carries 1-

methylcyclopropene. Tr. (Walton) 371:2-7. And she admitted that other carriers listed in Col. 5, ll. 14-21, of the Sisler patent stabilize 1-methylcyclopropene molecules by adsorption. *Id.* at 371:20-24; *see* Tr. (Dincă) 1175:14-1176:17.

It is irrelevant that the Sisler patent’s carriers may be structurally different from the ’849 patent’s molecular encapsulation agents. *See* Tr. (Walton) 425:17-426:1. Dr. Walton did not analyze the structural differences between the accused TruPick product and the claimed “molecular encapsulation agent” either. Instead, her equivalency theory rested on supposed *functional* equivalence—stabilization by adsorptive forces—between molecular encapsulation agents and adsorbents in general. *See id.* Because Dr. Walton’s asserted range of equivalents for “molecular encapsulation agent” ensnares the prior art Sisler patent, the Court should enter judgment as a matter of law that Decco did not infringe under the doctrine of equivalents.

B. Decco Did Not Willfully Infringe the ’849 Patent

The Court should also enter judgment as a matter of law that Decco did not willfully infringe the ’849 patent because no substantial evidence shows Decco’s actions were “willful, wanton, malicious, bad faith, deliberate, consciously wrong, or flagrant.” *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016). Mere pre-suit awareness of a patent is not willful misconduct. *Intellectual Ventures 1, LLC v. Symantec Corp.*, 234 F. Supp. 3d 601, 611-12 (D. Del. 2017); *Vehicle IP, LLC v. AT & T Mobility LLC*, 227 F. Supp. 3d 319, 331 (D. Del. 2016).

There is no evidence that Decco deliberately chose TruPick’s magnesium formate MOF because of its perceived equivalence to the ’849 patent’s “molecular encapsulation agent.” In fact, the opposite is true. Decco chose the TruPick MOF because it believed that the MOF is *not* equivalent to a molecular encapsulation agent. *See* PTXa-168 at 11; Tr. (Oakes) 698:24-699:16. Dr. Oakes testified to Decco’s belief that it was not infringing the ’849 patent. Tr. (Oakes)

698:24-699:13. Moreover, AgroFresh’s decision not to seek a preliminary injunction is evidence of Decco’s lack of willfulness. *See In re Seagate Tech., LLC*, 497 F.3d 1360, 1374 (Fed. Cir. 2007) (en banc), *overruled in part on other grounds, Halo Elecs.*, 136 S. Ct. at 1928. On this record, no reasonable jury could find that Decco’s alleged infringement of the ’849 patent under the doctrine of equivalents was willful.

C. Claim 1 of the ’849 Patent Is Invalid as Indefinite

Claim 1 of the ’849 patent is invalid as indefinite because the scope of the claimed “molecular encapsulation agent” is not reasonably certain to persons skilled in the art. *See Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). “Even if a claim term’s definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope.” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008). Definiteness is ultimately a question of law that can be decided on a motion for judgment as a matter of law. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015).

The Court ordered that a “molecular encapsulation agent” means: “a compound that has a lock and key structure similar to an enzyme whereby a substrate selectively fits into the encapsulation site.” D.I. 375 at 1. AgroFresh’s own experts could not agree on what the “lock and key structure similar to an enzyme” encompasses. Dr. Walton, with 19 years of experience, testified that zeolites *do not* have a “lock and key structure.” Tr. (Walton) 361:20-23. But Dr. Thompson, with 25 years of experience, directly contradicted her. Tr. (Thompson) 1259:5-7, 1259:19-1260:1. The testimony of both experts is conclusory; neither gave any objective reasons why a zeolite does or does not have a “lock and key structure similar to an enzyme.” Decco’s expert Dr. Dincă testified to his confusion as well on the issue. Tr. (Dincă) 1180:8-20.

When three highly experienced experts look at the exact same compound (zeolite) and cannot determine whether it has a “lock and key structure similar to an enzyme,” the term does not have a “meaningfully precise claim scope,” as the law requires. *See Halliburton*, 514 F.3d at 1251. The Court should enter judgment as a matter of law that claim 1 of the ’849 patent is invalid as indefinite.

D. Claim 1 of the ’849 Patent Is Invalid as Anticipated

The Court should enter judgment as a matter of law that U.S. Patent No. 5,321,014 (“Janz,” DTXb-0562) anticipates claim 1 of the ’849 patent. A patent claim is invalid as anticipated if, among other reasons, it was patented in the U.S. more than one year before the application for the patent claim was filed. 35 U.S.C. § 102(b). Janz issued on June 4, 1994, about four years before the application for the ’849 patent was filed, and discloses a complex formed from α -cyclodextrin and 1-methylcyclopropene, just like claim 1 of the ’849 patent.

First, Janz discloses the α -cyclodextrin “molecular encapsulation agent.” DTXb-0562 at 21:50-51; Tr. (Thompson) 1260:18-1261:3; Tr. (Dincă) 1178:5-1179:4. Next, it discloses 1-methylcyclopropene. DTXb-0562 at 22:10-15 (disclosing cyclic alkenes including 1-methylcyclopropene); Tr. (Thompson) 1260:3-17; Tr. (Dincă) 1179:5-9. Finally, it discloses that α -cyclodextrin encapsulates molecules like 1-methylcyclopropene that are smaller than benzene. DTXb-0562 at 21:50-51; Tr. (Thompson) 1261:4-10; Tr. (Dincă) 1178:5-1179:9. Thus, according to the testimony of both sides’ experts, Janz anticipates claim 1 of the ’849 patent.

AgroFresh’s expert, Dr. Thompson, testified that a person of ordinary skill in the art would not have been aware of or considered Janz when looking for a solution to inhibit the ethylene response. Tr. (Thompson) 1246:15-21. But that is legally irrelevant. “[A] reference may be from an entirely different field of endeavor than that of the claimed invention or may be directed to an entirely different problem from the one addressed by the inventor, yet the

reference will still anticipate if it explicitly or inherently discloses every limitation recited in the claims.” *State Contr. & Eng’g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1068 (Fed. Cir. 2003) (quoting *In re Schreiber*, 128 F.3d 1327, 1478 (Fed. Cir. 1997)).

VI. COMPENSATORY DAMAGES

The jury’s award of compensatory damages of \$6 million is not supported by substantial evidence, either as lost profits or damages for conversion.

A. AgroFresh Failed to Prove Entitlement to Lost Profits

Whether AgroFresh met its burden to prove entitlement to lost-profit damages is a question of law. *Wechsler v. Macke Int’l Trade, Inc.*, 486 F.3d 1286, 1293 (Fed. Cir. 2007). To recover lost profits, AgroFresh had to show “causation in fact,” where, absent Defendants’ accused conduct, there was a reasonable probability it would have made Defendants’ sales. *Grain Processing Corp. v. Am. Maize- Prods. Co.*, 185 F.3d 1341, 1349 (Fed. Cir. 1999). “An award of lost profits may not be purely speculative.” *Shockley v. Arcan, Inc.*, 248 F.3d 1349, 1362 (Fed. Cir. 2001). AgroFresh did not prove its entitlement to lost profits because it offered insufficient evidence on *Panduit* factors two and three.

AgroFresh’s damages expert, Vincent Thomas, failed to establish the absence of acceptable noninfringing substitutes (factor two). Mr. Thomas’s limited testimony was essentially that, because Pace did not sell to certain customers in 2015, its Fysium product was not an acceptable substitute for those customers in 2016. *See* Tr. (Thomas) 954:9-17. But even Mr. Thomas testified that this factor looks at whether there was another party “other than AgroFresh that could have made the sale.” *Id.* The trial evidence here showed that Pace was a competitor in the 1-MCP market that *could* have made such sales. *See, e.g.*, Tr. (Beaulieu) 522:4-22, 523:22-524:21; Tr. (Oakes) 626:24-627:2, 628:13-19, 661:5-18; Tr. (Harker) 792:16-19, 818:21-819:7, 821:3-15; Tr. (Cassidy) 913:6-8; Tr. (Mowry) 1052:16-23; Tr. (Mulhern)

1208:24-1209:9, 1210:24-1211:16. Mr. Thomas also conceded as much by testifying that Fysium had taken SmartFresh sales in 2015. *See, e.g.*, Tr. (Thomas) 943:3-8, 951:19-952:11, 954:9-17. He offered no competent testimony on why customers would not consider Fysium to be an acceptable substitute to SmartFresh, and he admitted he relied on no technical expert in reaching his conclusions. *See* Tr. (Thomas) 943:19-944:2, 1014:12-24. AgroFresh also failed to establish that it had the manufacturing capacity to exploit the additional demand for its lost sales (factor three), as Mr. Thomas offered only the conclusory assertion that it was “pretty clear” that AgroFresh had such capacity. Tr. (Thomas) 954:18-23.

In addition, for the reasons in Defendants’ Rule 50(a) motion, which are incorporated herein, AgroFresh failed to prove its entitlement to price-erosion damages. *See* D.I. 573 at 23-25.

B. AgroFresh Failed to Prove Damages for Conversion

To establish its entitlement to damages for conversion of confidential information in the ’216 patent, AgroFresh had to proffer evidence on “the market value” of the converted property “at the time and place of conversion.” *Northcraft v. Edward C. Michener Assocs., Inc.*, 466 A.2d 620, 628 (Pa. Super. 1983); *PTSI, Inc. v. Haley*, 71 A.3d 304, 314 (Pa. Super. 2013). AgroFresh offered no evidence on the value of this information at the time and place of conversion, much less on the value of the information at *any* point in time. Although AgroFresh’s damages expert testified that his analysis on lost profits and price-erosion damages could apply to conversion, *see* Tr. (Thomas) 1012:14-1013:6, the evidence he considered related only to the value of AgroFresh’s contracts for SmartFresh, Tr. (Thomas) 948:14-25. While the jury could have awarded nominal damages, it had no basis to award \$6 million—or any portion of that amount—for conversion. *Integrated Direct Mktg., LLC v. May*, 129 F. Supp. 3d 336, 368 (E.D. Va. 2015) (finding plaintiff not entitled to actual damages where there was insufficient evidence upon which a reasonable jury could calculate “the market value of any converted information”), *aff’d*,

690 F. App'x 822 (4th Cir. 2017); *E.I. du Pont de Nemours & Co. v. Kolon Indus., Inc.*, No. 3:09CV58, 2011 WL 4625760, at *9 (E.D. Va. Oct. 3, 2011) (granting JMOL where plaintiff “made it impossible” for jury to award damages for conversion “without resorting to mere conjecture and speculation”).

VII. PUNITIVE DAMAGES

The Due Process Clause of the Fourteenth Amendment prohibits imposing “grossly excessive or arbitrary punishments” on civil defendants. *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408, 416 (2003). In determining whether an award of punitive damages is excessive, courts consider three “guideposts”: (1) the degree of reprehensibility of the defendant’s misconduct; (2) the disparity between the actual or potential harm to the plaintiff and the punitive damages award; and (3) the difference between the punitive damages awarded by the jury and civil penalties in comparable cases. *Id.* at 418. Considering these guideposts, the Court should reduce the jury’s punitive damages award of \$24 million as grossly excessive.

A. Defendants’ Conduct Was Not Sufficiently Reprehensible to Justify a Substantial Punitive Damages Award

The degree of reprehensibility of a defendant’s conduct is the “most important” indicator of the reasonableness of a punitive award. *Id.* at 419. The reprehensibility analysis considers five factors: (1) whether the harm was physical or economic; (2) whether the conduct showed an indifference or reckless disregard for the health or safety of the plaintiff; (3) whether the target of the defendant’s conduct was financially vulnerable; (4) whether the conduct was an isolated incident or involved repeated actions; and (5) whether the harm was caused by intentional malice, trickery, or deceit, or was merely the result of negligence. *Id.* The existence of any of these factors weighing in a plaintiff’s favor may not be enough to sustain a punitive damages award, but the absence of all makes any award suspect. *Id.*

Here, the first three factors plainly favor Defendants. There is no evidence and no allegation of physical harm to AgroFresh or disregard for health or safety of anyone. And AgroFresh is not financially vulnerable. DTXb-747 at 34 (showing hundreds of millions in gross profit from 2013 to 2017); PTXb-821 (showing nearly half a billion in revenue from 2015 to 2017); Tr. (Cassidy) 912:2-23 (explaining AgroFresh has “very, very healthy gross margins”).

For the fourth factor, “[t]he Supreme Court has examined a defendant’s recidivist behavior as it relates to non-parties, not to plaintiffs.” *Jurinko v. Med. Protective Co.*, 305 F. App’x 13, 26 (3d Cir. 2008). The relevant past behavior must be defined at a “low level of generality” and must be “factually as well as legally similar to the plaintiff’s claim.” *Williams v. ConAgra Poultry Co.*, 378 F.3d 790, 797 (8th Cir. 2004) (citing *State Farm*, 538 U.S. at 423-24). Defendants here are not repeat offenders, much less repeat offenders of the same “prior transgressions.” *State Farm*, 538 U.S. at 423. Mr. Kaushik testified that, since joining the company eight or nine years ago, he knew of no lawsuits against UPL. Tr. at 1037:9-22. There is no evidence that Decco had ever been sued before either, or that Defendants had committed similar misconduct against others. It is therefore “significant” that there is no evidence Defendants “persisted in a course of conduct after [they] had been adjudged unlawful on even one occasion, let alone repeated occasions.” *BMW of N. Am. v. Gore*, 517 U.S. 559, 579 (1996).

The final factor in the reprehensibility analysis—whether there was malice, trickery, or deceit—also disfavors a high punitive award. Even though Dr. Mir testified about his own wrongdoing on the “advice of counsel” (Tr. at 551:11-552:2), Defendants never knowingly received any AgroFresh confidential information from Dr. Mir. Tr. (Oakes) 699:18-25; Tr. (Girin) 752:20-753:3. Nor does the record reflect that Defendants shared Dr. Mir’s apparent state of mind regarding a conspiracy to unlawfully develop and market TruPick or even

understood Dr. Mir might have had such a purpose. By repeatedly obtaining clear assurances from Dr. Mir, Defendants made a concerted effort to ensure they did *not* violate the law. Likewise, despite AgroFresh's attempts to elicit testimony on an intent to harm AgroFresh, the evidence shows Defendants did not have that state of mind. Tr. (Oakes) 655:6-19, 656:7-657:7. And when entering the market with TruPick, Defendants turned to their existing customer base (Tr. (Mowry) 1048:21-1050:1; DTXb-974; DTXb-984), and actively sought to ensure that AgroFresh's 1-MCP prices were matched, not undercut, Tr. (Oakes) 619:23-620:5; Tr. (Mowry) 1061:1-1063:7; Tr. (Kaushik) 1044:5-17; DTXb-976; DTXb-977; DTXb-978. Even if that conduct were harmful, it was not aimed at specifically harming AgroFresh.

When viewed together, the reprehensibility factors do not reflect such a "high level of culpability" by Defendants to justify a substantial punitive award. *Gore*, 517 U.S. at 580. Just as in *Gore*, the harm inflicted on AgroFresh was "purely economic in nature," and Defendants' conduct "evinced no indifference to or reckless disregard for the health and safety of others." *Gore*, 517 U.S. at 576. The absence of the reprehensibility factors therefore necessitates a much lower punitive damages award. *See Jurinko*, 305 F. App'x at 30 (reducing award to reflect a 1:1 ratio where "[o]nly two of the reprehensibility factors point strongly toward reprehensible conduct"); *Bridgeport Music, Inc. v. Justin Combs Publ'g*, 507 F.3d 470, 487 (6th Cir. 2007) ("[W]here only one of the reprehensibility factors is present, a ratio in the range of 1:1 to 2:1 is all that due process will allow.").

B. The Excessiveness of the Punitive Damages Is Reinforced by the Disparity Between the Punitive Award and the Harm to AgroFresh

The Court must also consider the "disparity between the actual or potential harm suffered by the plaintiff and the punitive damages award." *State Farm*, 538 U.S. at 419. There is no "mathematical bright line" separating constitutional punitive damages awards from those that are

unconstitutional. *Gore*, 517 U.S. at 583. When compensatory damages are substantial, a 1:1 ratio may be the constitutional maximum. *State Farm*, 538 U.S. at 425.

Here, the 4:1 ratio (\$24 million in punitive damages to \$6 million in compensatory damages) crosses the line of “constitutional impropriety.” *Id.* While a high ratio will not violate due process if “a particularly egregious act has resulted in only a small amount of economic damages,” or if “the injury is hard to detect or the monetary value of noneconomic harm might have been difficult to determine,” *id.* at 582, neither of those factual situations exists here. AgroFresh’s expert was able to quantify the economic harm by calculating AgroFresh’s lost profits resulting from lost sales and price erosion. Tr. (Thomas) 937:4-24. And the \$6 million in compensatory relief is unquestionably substantial. *See State Farm*, 538 U.S. at 426 (“The compensatory award in this case was substantial; the Campbells were awarded \$1 million for a year and a half of emotional distress.”); *Morgan v. N.Y. Life Ins. Co.*, 559 F.3d 425, 442 (6th Cir. 2009) (“The \$6,000,000 compensatory award is fifteen times more than the amount that we previously found to be substantial.”). The substantial nature of the compensatory relief becomes even more apparent when comparing it to Defendants’ total U.S. sales of around \$500,000, which only accounted for about 1% of the market. Tr. (Girin) 761:22-762:4; Tr. (Mowry) 1066:4-17); DTXb-512.

Under these circumstances, a 1:1 ratio is an appropriate benchmark for satisfying due process. *State Farm*, 538 U.S. at 425; *see also Jurinko*, 305 F. App’x at 28 (“Other courts have used a 1:1 ratio as a benchmark where compensatory damages are substantial.”); *In re Bayside Prison Litig.*, 331 F. App’x 987, 993 (3d Cir. 2009) (explaining that “several courts have found a ratio between 1:1 and 2:1 to comport with constitutional restrictions” where compensatory relief is substantial); 5 Bus. & Com. Litig. Fed. Cts. § 48:54 at 1 & n.6 (4th ed.) (noting that “a

growing number of courts have reduced a punitive award to a 1:1 multiple of compensatory damages in reliance on the Supreme Court’s statement” in *State Farm*) (citing dozens of cases). In *Jurinko*, the Third Circuit concluded that a 3.13:1 ratio should be reduced to 1:1 where the compensatory award was only \$1,996,950—less than half the award here. 305 F. App’x. at 28-30, 32. Many other decisions are in accord with *Jurinko*. See, e.g., *Morgan*, 559 F.3d at 441-43 (6th Cir. 2009) (remanding for an order of remittitur setting punitive damages in an amount not to exceed the \$6 million compensatory award); *Boerner v. Brown & Williamson Tobacco Co.*, 394 F.3d 594, 602-03 (8th Cir. 2005) (deeming \$4,025,000 a substantial compensatory award and concluding that a \$15 million punitive award must be remitted to \$5 million despite “highly reprehensible” conduct); *Klein v. Weidner*, No. CA 08-3798, 2010 WL 2671450, at *10 (E.D. Pa. July 2, 2010) (concluding ratio of 1:1 was appropriate despite “malicious intent and repeated misconduct” by a defendant who “willfully defied a court order and used unlawful and threatening means to impede the judicial process”), *aff’d*, 729 F.3d 280 (3d Cir. 2013). Because the compensatory damages award was substantial and the harm was exclusively economic, this guidepost supports a reduced award.²

C. Statutory Multipliers for Related Misconduct Indicate the Punitive Damages Award Is Excessive

The third guidepost in *State Farm* is the disparity between the punitive damages award and the “civil penalties authorized or imposed in comparable cases.” 538 U.S. at 418. Numerous federal and state laws authorize up to treble damages when a defendant has engaged in some form of improper business conduct. See, e.g., 73 Pa. Stat. Ann. § 201-9.2 (unfair trade practices); 12 Pa.C.S.A. § 5304(b) (trade secret); 18 U.S.C. § 1836(b)(3)(C) (trade secret); 35 U.S.C. § 284

² The Supreme Court has made clear that the “wealth of a defendant cannot justify an otherwise unconstitutional punitive damages award.” *State Farm*, 538 U.S. at 427.

(patent); 15 U.S.C. § 15(a) (antitrust); 18 U.S.C. § 1964(c) (RICO). But even trebling the \$6 million compensatory damages award would be significantly less than the jury's punitive damages award. This guidepost also indicates that the punitive damages award was excessive.

D. The Appropriate Award Should Reflect a 1:1 Ratio

Pennsylvania law makes clear that punitive damages are an “extreme remedy” available in only the most exceptional matters. *In re Lemington Home for the Aged*, 777 F.3d 620, 633 (3d Cir. 2015). While Defendants are not challenging whether this extreme remedy is available at all, the factors discussed above all demonstrate that the jury's punitive damages award is excessive and should be reduced.

When courts have deviated upwards from a 1:1 ratio in cases involving a substantial compensatory award, the defendant has typically engaged in particularly egregious behavior and caused noneconomic harm. *See, e.g., Ondrisek v. Hoffman*, 698 F.3d 1020, 1027, 1029-31 (8th Cir. 2012) (reducing a 10:1 ratio to 4:1 in a case involving “extreme reprehensibility” where religious leader, who had previously been found liable for beating children, repeatedly and brutally battered minors); *Gibson v. Moskowitz*, 523 F.3d 657, 662 (6th Cir. 2008) (upholding a 2:1 ratio where mentally ill inmate died of dehydration after defendant doctor recklessly ignored inmate's medical needs); *Lee ex rel. Lee v. Borders*, 764 F.3d 966, 970, 975-76 (8th Cir. 2014) (upholding a 3:1 ratio where employee at facility for developmentally disabled individuals “abused a position of trust” by having intercourse with a patient without her consent); *Turley v. ISG Lackawanna, Inc.*, 774 F.3d 140, 146, 166–67 (2d Cir. 2014) (holding that remittitur to an approximate 2:1 ratio would be constitutional where defendants subjected plaintiff to “an extraordinary and steadily intensifying drumbeat of racial insults, intimidation, and degradation over a period of more than three years”); *Brand Mktg. Grp. LLC v. Intertek Testing Servs., N.A.*, 801 F.3d 347, 353, 363-66 (3d Cir. 2015) (affirming 4.78:1 ratio where plaintiff was financially

vulnerable, defendant engaged in repeated misconduct, and defendant showed “reckless disregard” for both plaintiff’s rights and consumers’ health and safety, potentially putting consumers in “serious danger”).

Compared to these cases, Defendants’ conduct here falls far on the other end of the spectrum. *See Inter Med. Supplies, Ltd. v. Ebi Med. Sys.*, 181 F.3d 446, 467 (3d Cir. 1999) (reducing punitive award from \$50 million to \$1 million despite \$48 million compensatory award where plaintiff was “not a financially weak or vulnerable target” and harm was economic). If the Court upholds the jury’s verdict on liability and compensatory damages, AgroFresh will have been made whole by a substantial compensatory award. The punitive damages award should be reduced to reflect a 1:1 ratio. *Jurinko*, 305 F. App’x at 30.

VIII. CONCLUSION

For these reasons, Defendants respectfully request that the Court enter judgment as a matter of law under Rule 50(b) on AgroFresh’s claims of trade secret misappropriation, unfair competition, intentional interference with contractual relationships, civil conspiracy, conversion, patent infringement, and compensatory damages, and further reduce the amount of punitive damages.

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